TABLE 1
BIOTERRORISM: AGENT SUMMARY

Disease	Virulence Factor(s)	Infective Dose	Incubation Period	Duration of Illness	Mortality		Person to Person Transmission[5]	Isolation Precautions for Hospitalized[6]	Persistence of Organism
					Untreated	Treated			
Inhalation Anthrax	Exotoxin[1] Capsule	8,000 - 50,000 spores	1 - 6 days	3 - 5 days	~100%	~99%	No	Standard	Soil ~40 yrs
Brucellosis	LPS[2] PMN survival	10 -100 organisms	5 - 60 days	weeks to months	~5%[4]	<1%[4]	No	Standard	Water/soil ~10 wks
Botulism	Neurotoxin	0.001 ·g/kg (type A)	6hr - 10 days	24 - 72 hrs	Outbreak: 1st patient: 25% Subsequent cases: 4% Overall: 5-10%		No	Standard	Food/water ~weeks
Tularemia	Intracellular survival	10 -50 organisms	1 - 21 days	~2 weeks	33%	<4%	No	Standard	Moist soil ~months
Pneumonic Plague	V&W antigens[3] LPS endotoxin F1 antigen[3]	<100 organisms	2 -3 days	1 - 6 days	40 - 70%	5%	YES (high)	Droplet[7]	Soil ≥1 yr
Smallpox		10 - 100 particles	7 - 17 days	~4 weeks	Variola minor: <1% Variola major:20-50%		YES (high)	Airborne[7]	Very Stable
VHF		1 - 10 particles	4 - 21 days	7 - 16 days	53 - 88%		YES (moderate)	Airborne[7] and Contact[7]	Unstable

1. *B. anthracis* exotoxin(s) consists of 3 components: the **edema factor** and **lethal factor** exert their effect within cells by interacting with a common transport protein designated, **protective antigen** (so named because,
when modified, it contributes to vaccine efficacy). Expression of toxic factors is mediated by one plasmid and that of the capsule (D-glutamic acid polypeptide) by a second plasmid. Strains repeatedly subcultured @
42°C become avirluent as a result of losing virulence-determining plasmids which is thought to be the basis for Pasteur's attenuated anthrax vaccine used at Pouilly-le-Fort in 1881..
2. The major virulence factor for brucellosis appears to be an endotoxic lipopolysaccharide (LPS) among smooth strains. Pathogenicity is related to an LPS containing poly N-formyl perosamine O chain, Cu-Zn superoxide dismutase, erythrulose phosphate dehydrogenase, intracellular survival stress-induced proteins, and adenine- and guanine-monophosphate inhibitors of phagocyte functions.
3. The V & W antigens and the F1 capsular antigens are only expressed @ 37°C and not at the lower temperature of the flea (20-25°C).
4. Endocarditis accounts for the majority of brucellosis-related deaths.
5. Period of communicability : For **inhalation anthrax, brucellosis, botulism, or tularemia** : **None**, no evidence of person to person transmission; **pneumonic plague :** For 72 hrs, following initiation of appropriate
antimicrobial therapy or until sputum culture is negative; **Smallpox : approximately 3 weeks**, usually corresponds with the initial appearance of skin-lesions to their final disappearance, most infectious during the first
week of rash via inhalation of virus released from oropharyngeal-lesion secretions of the index case; **VHF: varies with virus, but at minimum, all for the duration of illness** and for Ebola/Marburg transmission
through semen may occur up to 7 weeks after clinical recovery.
6. Guideline for isolation precautions in hospitals. Infect Control Hosp Epidemiol 1996;17:53-80. www.cdc.gov/ncidod/hip/isolat/isolat.htm

7. In addition to standard precautions which apply to all patients.